

WHAT IS CLAIMED IS:

1. A sheet supplying apparatus comprising:

first stacking means stacked with sheets and  
including a first stacking portion receiving  
5 component force of the gravity in a sheet supplying  
direction from the sheets;

second stacking means installable in a  
detachable/attachable manner from and to said first  
stacking means on an upper side in the sheet stacking  
10 direction of said first stacking portion; and

separating/supplying means used in common to  
said first stacking means and said second stacking  
means, for separating and supplying the stacked  
sheets,

15 wherein said second stacking means includes a  
base member for installing in said first stacking  
means, and a second stacking portion movably  
incorporated into said base member,

wherein the second stacking portion is so  
20 constructed as to be possible of advancing and  
retreating substantially in parallel with the sheet  
supplying direction, and

wherein in a retreat position where said second  
stacking portion retreats upstream in the sheet  
25 supplying direction, the sheet can be supplied from  
said first stacking portion, and, in a possible-of-  
supplying position where said second stacking portion

advances downstream in the sheet supplying direction,  
the sheet can be supplied from said second stacking  
portion.

5           2. A sheet supplying apparatus according to  
claim 1, wherein when said second stacking portion is  
in a position possible of supplying from said second  
stacking portion, said second stacking means is  
locked so that said second stacking means can not be  
10 released from said first stacking means, and

when said second stacking means is in a state  
of releasing from said first stacking means, said  
second stacking portion of said second stacking means  
is locked so that said second stacking portion is  
15 unable to advance to the possible-of-supplying  
position.

3. A sheet supplying apparatus according to  
claim 1, wherein said second stacking portion  
20 includes sheet supplying route blocking means capable  
of abutting on and separating from an end portion of  
the sheet on the downstream side in the supplying  
direction so as to block a sheet supplying route to  
said separating/supplying means from said second  
25 stacking portion.

4. A sheet supplying apparatus according to

claim 3, wherein said sheet supplying route blocking means abuts on the end portion of the sheet on the downstream side in the supplying direction when in the retreat position, separates from the end portion  
5 of the sheet on the downstream side in the supplying direction when in the possible-of-supplying position, and opens the sheet supplying route to said separating/supplying means from said second stacking portion when the sheet on said second stacking  
10 portion is supplied by said separating/supplying means.

5. A sheet supplying apparatus according to claim 4, wherein when in the possible-of-supplying  
15 position, an abutting portion of said sheet supplying route blocking means, which abuts on the end portion of the sheet on the downstream side in the supplying direction, separates from an abutting portion of said first stacking portion, which abuts on the end  
20 portion of the sheet on the downstream side in the supplying direction, and

when said separating/supplying means supplies the sheet on said second stacking portion, an operation of said sheet supplying route blocking  
25 means is regulated by a regulating portion provided on said first stacking portion, thereby opening the sheet supplying route from said second stacking

portion.

6. A sheet supplying apparatus according to claim 1, wherein when said second stacking portion  
5 moves to the retreat position from the possible-of-supplying position, said second stacking portion is set substantially parallel with the sheet stacked on said first stacking portion and is thereafter moved upstream in the sheet supplying direction.

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7. A sheet supplying apparatus according to claim 3, wherein the abutting portion of said sheet supplying route blocking means, which abuts on the end portion of the sheet on the downstream side in  
15 the supplying direction, includes guide means for guiding respectively upper and lower sides, in the sheet stacking direction, of the sheet stacked on said second stacking portion when in the retreat position, towards the inside of the abutting portion  
20 of said sheet supplying route blocking means.

8. A sheet supplying apparatus according to claim 7, wherein said guide means is configured in a shape protruding on the upstream side at least in the  
25 sheet supplying direction at the upper and lower portions, in the sheet stacking direction, of the abutting portion of said sheet supplying route

blocking means.

9. A sheet supplying apparatus according to claim 3, wherein said base member of said second  
5 stacking means includes cover means for covering the surface of the sheet stacked on said second stacking portion when in the retreat position, and

said cover means serves as regulating means for regulating the upper side of the sheet in the sheet  
10 stacking direction within an abutting range on the abutting portion of said sheet supplying route blocking means.

10. A sheet supplying apparatus according to  
15 claim 9, wherein said cover means separates from said second stacking portion when in the possible-of-supplying position.

11. A sheet supplying apparatus according to  
20 claim 7, wherein said second stacking portion includes regulating means for regulating the lower side of the sheet in the sheet stacking direction, and

said regulating means is provided in the  
25 vicinity of said sheet supplying route blocking means and is overlapped with said guide means of said sheet supplying route blocking means in the sheet supplying

direction.

12. A sheet supplying apparatus according to  
claim 1, wherein a final limit forward portion of  
5 said second stacking portion on the downstream side  
in the sheet supplying direction, is provided with a  
protruded portion of which angular and ridged  
portions are rounded and of which a surface is  
smoothed.

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13. A sheet supplying apparatus according to  
claim 1, wherein said first stacking means includes a  
sheet type discriminating sensor for discriminating  
between types of the sheets supplied from said first  
15 stacking portion and from said second stacking  
portion, and a tray position detecting sensor for  
detecting a position of said second stacking portion,  
and

the sheet supplied is identified from a result  
20 of the discrimination by said sheet type  
discriminating sensor and a result of the detection  
by said tray position detecting sensor.

14. A sheet supplying apparatus according to  
25 claim 1, wherein said base member of said second  
stacking means is provided with an index at a portion  
in which the end portion of the sheet is positioned

when stacking the sheet on said first stacking portion.

15. A sheet supplying apparatus according to  
5 claim 14, wherein the index is a line indicating the end portion of the sheet.

16. A sheet supplying apparatus according to  
claim 14, wherein the indexes are the line indicating  
10 the end portion of the sheet and a character indicating a size of the sheet.

17. A sheet supplying apparatus according to  
claim 1, wherein said first stacking means includes a  
15 first stacking portion stacked with the sheet and receiving component force of the gravity in the sheet supplying direction, and a holding member for holding a back surface of the sheet stacked on said first stacking portion, and

20 said holding member for holding the back surface of the sheet stacked on said first stacking portion is provided with an index in a position which is visually recognizable even in a state where said second stacking means is installed and which is a  
25 sheet stacking fiducial portion of said first stacking portion.

18. A sheet supplying apparatus according to claim 1, wherein said second stacking portion is provided with a cover member that opens and closes when taking the sheet in and out and a sub cover member interlocking with the opening/closing of said cover member, on the upstream side of said second stacking portion in the sheet supplying direction.

19. A recording apparatus for recording on a sheet by recording means, comprising;

first stacking means stacked with sheets and including a first stacking portion receiving component force of the gravity in a sheet supplying direction from the sheets;

second stacking means installable in a detachable/attachable manner from and to said first stacking means on an upper side in the sheet stacking direction of said first stacking portion; and

separating/supplying means used in common to said first stacking means and said second stacking means, for separating and supplying the stacked sheets,

wherein said second stacking means includes a base member for installing in said first stacking means, and a second stacking portion movably incorporated into said base member,

wherein the second stacking portion is so



constructed as to be possible of advancing and retreating substantially in parallel with the sheet supplying direction and,

wherein in a retreat position where said second  
5 stacking portion retreats upstream in the sheet supplying direction, the sheet can be supplied from said first stacking portion, and, in a possible-of-supplying position where said second stacking portion advances downstream in the sheet supplying direction,  
10 the sheet can be supplied from said second stacking portion.

20. A recording apparatus according to claim 19, wherein said recording means is of an inkjet type for  
15 recording by ejecting liquid droplets out of a nozzle.

21. A sheet supplying apparatus comprising:  
a first stacking portion and a second stacking portion, being stacked with sheets and receiving  
20 component force of the gravity in a sheet supplying direction; and

a separating/supplying portion used in common to said first stacking portion and said second stacking portion, for separating and supplying the  
25 stacked sheets,

wherein said second stacking portion is so constructed as to be possible of advancing and

retreating substantially in parallel with the sheet  
supplying direction with respect to said first  
stacking portion,

in a retreat position where said second  
5 stacking portion retreats upstream in the sheet  
supplying direction, the sheet can be supplied from  
said first stacking portion, and,

in a possible-of-supplying position where said  
second stacking portion advances downstream in the  
10 sheet supplying direction, the sheet can be supplied  
from said second stacking portion.

22. A sheet supplying apparatus according to  
claim 21, further comprising blocking means capable  
15 of abutting on and separating from the end portion of  
the sheet on the downstream side in the supplying  
direction so as to block a sheet supplying route from  
said second stacking portion to said  
separating/supplying portion.

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23. A sheet supplying apparatus according to  
claim 22, wherein said blocking means abuts on the  
end portion of the sheet on the downstream side in  
the supplying direction in the retreat position,  
25 separates from the end portion of the sheet on the  
downstream side in the supplying direction in the  
possible-of-supplying position, and opens the sheet

supplying route to said separating/supplying portion from said second stacking portion when said separating/supplying portion supplies the sheet on said second stacking portion.

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24. A sheet supplying apparatus according to claim 23, wherein when in the possible-of-supplying position, an abutting portion of said blocking means, which abuts on the end portion of the sheet on the downstream side in the supplying direction, separates from an abutting portion of said first stacking portion, which abuts on the end portion of the sheet on the downstream side in the supplying direction, and

15 when said separating/supplying portion supplies the sheet on said second stacking portion, an operation of said blocking means is regulated by a regulating portion provided on said second stacking portion, thereby opening the sheet supplying route from said second stacking portion.

25. A sheet supplying apparatus according to claim 22, wherein the abutting portion of said blocking means, which abuts on the end portion of the sheet on the downstream side in the supplying direction, includes guide means for guiding respectively upper and lower sides, in the sheet

stacking direction, of the sheet stacked on said second stacking portion when in the retreat position, towards the inside of the abutting portion of said blocking means.

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26. A sheet supplying apparatus according to claim 25, wherein said guide means is configured in a shape protruding on the upstream side at least in the sheet supplying direction at the upper and lower portions, in the sheet stacking direction, of the abutting portion of said blocking means.

27. A sheet supplying apparatus according to claim 25, further comprising cover means for covering the surface of the sheet stacked on said second stacking portion when in the retreat position, and said cover means regulates the upper side of the sheet in the sheet stacking direction within an abutting range on the abutting portion of said blocking means.

28. A sheet supplying apparatus according to claim 25, wherein said cover means serving as regulating means for regulating the upper side of the sheet in the sheet stacking direction within the abutting range on the abutting portion of said sheet supplying route blocking means, separates from said.

second stacking portion when in the possible-of-supplying position.

29. A sheet supplying apparatus according to  
5 claim 24, wherein said second stacking portion includes second regulating means for regulating the lower side of the sheet in the sheet stacking direction, and

guide means overlapped with said sheet  
10 supplying route blocking means in the sheet supplying direction is provided in the vicinity of said sheet supplying route blocking means and of said second regulating means.

15 30. A recording apparatus for recording on a sheet by recording means, comprising;

a first stacking portion and a second stacking portion, being stacked with sheets and receiving component force of the gravity in a sheet supplying  
20 direction; and

a separating/supplying portion used in common to said first stacking portion and said second stacking portion, and separating and supplying the stacked sheets,

25 wherein said second stacking portion is so constructed as to be possible of advancing and retreating substantially in parallel with the sheet

supplying direction with respect to said first  
stacking portion,

in a retreat position where said second  
stacking portion retreats upstream in the sheet  
5 supplying direction, the sheet can be supplied from  
said first stacking portion, and,

in a possible-of-supplying position where said  
second stacking portion advances downstream in the  
sheet supplying direction, the sheet can be supplied  
10 from said second stacking portion.

31. A recording apparatus according to claim 30,  
wherein said recording means is of an inkjet type for  
recording by ejecting liquid droplets out of a nozzle.  
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32. A sheet supplying apparatus comprising:  
a first stacking portion stacked with a sheet;  
a second stacking portion stacked with a sheet  
and receiving component force of the gravity in a  
20 sheet supplying direction, said second stacking  
portion being so constructed as to be possible of  
advancing and retreating substantially in parallel  
with the sheet supplying direction with respect to  
said first stacking portion; and  
25 a cover member opened and closed when taking  
the sheet in and out on the upstream side in the  
sheet supplying direction of said second stacking

portion,

wherein the sheet can be supplied while said  
cover member remains opened.